

THE ASSIST

October 1996

Issue no. 8

**** Serving the RAST Fleet ****

A WORD FROM THE RAST FLEET LIAISON

Greetings from Lakehurst. Now that many of you are finally getting to see the -14 RSD, it's time for another round of improvements. Thanks to fleet feedback and other factors, several areas of the RSD will be upgraded. The time frame for release to the fleet will be in 1998.

-15 RSDs will have:

- a new fluid filter with a pop up indicator
- a new sampling valve on the pump outlet
- an air filter on the reservoir
- a more durable and reliable latch switch
- improvements to the unlatch bar sticking problem
- a new cover plate #5 that will better withstand the impact of the main probe.

With these major improvements, the maintenance of RSDs should turn most of the work on the RSDs to preventive vice corrective. Thanks for your feedback - you have helped make these changes possible.

Now to the issue of getting "THE ASSIST" out to the fleet. Some of you have called and informed us that you do not receive "THE ASSIST". If you are not receiving the newsletter, or have only gotten a few issues, feel free to call me and I will work with you to insure you

get your copy. The best system we have is to send them to the Aux Officer, and sometimes they may not make it down to the deckplates.

And lastly, many of you have been wondering how long I could hide up here at Lakehurst. Well, my time has come to go back to the Fleet. USS DEYO DD-989 will be my next assignment and I'm looking forward to this new challenge. 'Til the next issue, be safe.

Submitted by:
EN1(SW) Fales

YO!! Readers!
Your attention please

Do you have any RAST related thoughts you want to get "out" to the RAST community? Well, this is the place (forum, actually) you can do it. That's right, you (deckplates, ASIRs, supply types, etc.) can get published. No need to continue to stuff that burning thought. Share your ideas with your shipmates; and, who knows, they may do the same. Don't know 'til you try. Call, fax, or send (on the enclosed feedback sheet), your thoughts to me (the editor) and I'll see that they get some ink. Contact info is on page 2.

Don Brown

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TOP FIVE REASONS WHY YOU WILL CASREP YOUR RSD

The RAST subsystem that experiences the most casualties during operational deployment is the RSD. Working as a RAST In-Service engineer for the last 12 years, I've had the honor of participating in some major EIs of RSD failures. I've also visited the SIMA overhaul facilities and have examined RSDs after going through their four year duty cycles. The reason I'm providing you with my resume' is so you will know what my qualifications are for providing you my top five reasons why you will have to CASREP your RSD.

REASON # 1, LACK OF MAINTENANCE:

So, you've decided to get away from it all for six months and take a little cruise. Just you and your buddies and two H60s. There are lots of activities to keep you busy. And even if you wanted to do maintenance on your RSDs, the helo detachment won't let you down the system to do it. So for six months the RSDs take a licking, and in fact they usually do keep on ticking. But many of these units end up having to be changed out early; costing the ship extra money, and putting excess strain on Supply and the Overhaul activities. Should you have to CASREP an RSD during deployment, they often

lead to discovery of multiple, cascading failures. And I don't think I have to tell anybody about the headaches of getting parts. In fact, in most of the EIs I've done on RSDs, the units had so many things wrong with them, they were destined to fail. The actual failure mode was just a technicality, because if one particular part hadn't failed first, another one would have. Most of the faults could have been discovered long before the components actually failed simply by removing the cover plates and observing the unit. A seized mechanism here, a broken cable strand there, a pump that charged for 90 seconds or an obvious hydraulic leak. Things you could order replacement parts for and correct long before your system goes down. All it takes is just a little attention to your machine.

REASON # 2, FLIGHT DECK WORK:

Making repairs to, or around, the flight deck is the number one reason why RSDs get contaminated. The air vent to the hydraulic reservoir is in the bottom of the RSD, about two inches above the deck. If you blast or blow with the RSDs on the flight deck you **WILL** contaminate the hydraulic reservoir. The only thing protecting it is a 200 mesh screen at the bottom of the vent. This screen will let in particles as large as 220 microns. For hydraulic systems, that's about the size of an Exoset missile. We will field a service change, starting OCT 97, that will upgrade

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NAWC Lakehurst RAST Points of Contact

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the entire hydraulic filtration system in the RSD, including a 20 micron air filter under the cover plates for the reservoir. Until then, the best thing to do is prevent exposure of your RSD to flight deck work.

REASON # 3, OVERHAUL QUALITY:

It's pretty hard for me to gage where this one belongs on this list. The quality of overhauled RSDs is continually changing. And that's more of a Navy problem than a problem unique to the RAST overhaul program. It's hard to maintain consistent quality when your most experienced people are always leaving.

When we find a process problem that we can correct with a manual change, we do. Most of the time, it's the shops themselves that bring the problems to our attention. The two main reasons why it's been difficult to monitor overhaul quality are: lack of reporting and confusion on where the fault originated. And the two are really part of the same problem. Let's say you get your new RSDs at the beginning of your yard period. You install them in the tracks and, after months of deck and hangar work, you discover they don't work quite right. Did the fault come from the overhaul shop? Maybe. But probably not. Like anywhere else in life, it's "buyer beware". When you get a newly overhauled RSD, inspect it thoroughly; if you find anything wrong, submit a QDR immediately. To this date, Supply and the SIMAs have corrected all deficiencies without charge when a QDR is submitted immediately.

If you feel you need reassurance that your new unit will be dependable, you can always request your local ASIR check it out for you before you accept it. If the RSD has a problem shortly after you've been doing flight ops, it's much more difficult to trace where the fault came from. In most cases the ship is going to have to pay to fix it. If it's a major fault, the ship can request an Engineering Investigation from Lakehurst. But even then, sometimes we can figure out where the fault came from, and sometimes we can't. And if we can't, the ship still gets stuck with the bill.

REASON # 4, DESIGN FAULTS:

For what it does, the RSD is a fairly simple and rugged machine. It takes a beating from the helicopter and the elements, often with very little attention paid to it. Over the years we have corrected problems that you have reported to us, and some we've discovered on our own, by incorporating design changes. We also sort through 3M data looking for high failure rates. As a result, nearly half the fleet is now outfitted with -14 RSDs and the -15 RSD is in the final stages of development. But these changes only happen if we get enough reports of a particular problem. What may be common knowledge of a design fault to the user may not be to us here in engineering. So report those faults. Remember you do have a fleet liaison here, Dan Fales. Or contact any of the engineers. And be clear and careful filling out those 3M reports. We *do* look at them, and some of them are pretty difficult to decipher. A failure attributed to "RAST" makes it pretty hard to pin point the problem area. In any case, a written report always beats word of mouth.

REASON # 5, LACK OF TRAINING:

I've been told that RAST techs get very little training on the RSD. As a result, there's a lack of understanding under the covers. This is not good considering the RSD requires more attention than any other RAST component. More formal classroom training may not be the answer. The best training any RAST tech can get is to spend time in the RAST overhaul shops. By the time a RAST overhaul mechanic leaves the shop, he can have as good an understanding of the machine as any of us here at Lakehurst. Sadly, this is knowledge that he may never use again as a nuke or a boatswain's mate, etc. My advice to RAST techs is to get into the shops if you can and learn what you can.

Submitted by:
Dave Leung

IT'S THE LITTLE THINGS THAT COUNT

Everybody knows the story of David and Goliath. Would you believe that a little paint applied in the wrong place could cause unlatching of the RSD arresting beams and possible helicopter detachment from the RSD?

Well, a recent Engineering Investigation of a -13 RSD from a FFG07 class ship, found that paint had been applied to the surface below the flag slider bar, P/N 6532C802-3. This area is not supposed to be painted, and you guessed it, the paint caused the failure.

A part of the straightening procedure calls for latched beams to the extreme PORT or STBD side, and subsequent Tail Guide in the opposite direction. In this instance, the beams were latched and on the extreme PORT side, with flat seas. At the time, nobody realized that the aft latch wasn't engaged; even though the flag wasn't up and the LATCH light wasn't lit (at least one should be functional - see FOOTNOTE). Try to guess what happened next..... If you thought that "the aft end of the beams came apart while tailguiding STBD, that some of the beam cables popped, that the LSO engaged the cam brakes, and that the STBD beam fell onto the deck (clunk!)", you were right!!

The beam had come out all because the slider bar had seized due to the paint underneath, preventing the aft latch from engaging. The moral of the story: Pay attention to warnings of a potential failure, such as no flag or latch light indication. As good practice, before each flight, you should check things such as freedom of movement of flag linkages, latches, and cam brakes, and ensure the beams latch properly. It could save your buddy's life.

FOOTNOTE . The RSD flags and latch switches have reliability problems, but since they are redundant, at least one should be functional during ops. We realize that the flags and latch switches have been a thorn in your side, adding to your maintenance time. LRC 57 incorporates a new design which corrects the flag's problems, and has been incorporated in 52 RSDs to date. The RSDs with the new flags are 6532E900-14's. Furthermore, the latch switches will be replaced by a new design beginning the fourth quarter of 1997, during RSD overhaul at SIMA, via LRC 62.

Submitted by:
Marc Friedman

Fair Winds and Following Seas

The HLS team is losing a valuable member at the end of October.

Carol Hoffman of NAVICP, Mechanicsburg is leaving government service to pursue some greener pastures. You may not recognize her name, but if you have CASREPed anything in the last few years, chances are Carol was doing the dirty work making sure you got your part ASAP.

The HLS team at Lakehurst would like to extend our sincere thanks to Carol for her tireless support to the fleet and in-service engineering.

All the best in your new endeavors; we'll miss you.

"THE ASSIST" is an unclassified, quarterly, publication issued by the RAST team of the Recovery Branch, Support Equipment/ALRE In-Service Engineering Division, Engineering Group - Naval Air Warfare Center, Aircraft Division, Lakehurst, NJ. The information herein is unofficial and is provided to assist the RAST community in the operation and maintenance of the RAST system.

Including this issue, we have distributed eight newsletters covering a wide range of RAST maintenance tips, supply and logistical information, status of on-going system upgrades, RAST historical background, survey feedback, and answers to your various questions - 32 articles in all. An index of all published articles is listed below:

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| Issue No. 1
(Jul '94) | <ol style="list-style-type: none">1. Word from the Fleet Liaison - Introduction2. LRC No. 57 Introduces "-14" RSDs3. RAST RA CAL Kit Survey Results4. Tip of the Quarter - Proper servicing of the RSD Accumulator |
| Issue No. 2
(Jan '95) | <ol style="list-style-type: none">1. Maintenance Tip: Cycle Your Equipment!2. RSD Electric Cables3. ECA Fuses4. Tip of the Quarter - Proper Servicing of the Rope Accumulator5. Word from the Fleet Liaison - Documenting System Maintenance |
| Issue No. 3
(Apr '95) | <ol style="list-style-type: none">1. Your RAST System's Biggest Threat - Hydraulic System Contamination2. On the Horizon: RSD Block II Upgrade, Flexible RSD Electric Cable, Electric Cable Passing Tube, Elimination of ECR and Gutters3. Tip of the Quarter - How to Avoid Electric Cable & Gutter Problems4. Word from the Fleet Liaison - RSD Electric Cable Failures |
| Issue No. 4
(Jul '95) | <ol style="list-style-type: none">1. How do you Gage a Failure? - RSD Pressure Gage Failures2. Touch and Go's - Track Plate Lifting Tool, TGW Pump Bearing Failure3. Keeping RAST Systems Up and Running4. Word from the RAST Fleet Liaison - CASREPs and CASCORs |
| Issue No. 5
(Nov '95) | <ol style="list-style-type: none">1. Stripped Marotta Valve Threads2. Everything You Ever Wanted to Know About Traverse Cable Lube3. Maintenance Review Conference for RAST System4. Listing of Latest HLS Tech Manuals |
| Issue No. 6
(Mar '96) | <ol style="list-style-type: none">1. How Big is Your Connector? - Changing RA Cables2. RAST AVCERT Preparations3. RSD Turn-In Procedure4. HRS ISD (Indicator, Stabilization Device) Turn-In Procedure5. HRS Lamp Bar Turn-In Procedure6. Touch and Go's: Protecting RAST during SRAs & Smoking Prelube 19 Rags |
| Issue No. 7
(Jun '96) | <ol style="list-style-type: none">1. Hydraulic Fluid Filtration Cart Info2. Machinery Room Improvements Upgrade Status3. Demand Only Requisition Procedure4. Tip of the Quarter - Proper Servicing of RSD accumulator (Issue no. 1 repeat)5. Word from the Fleet Liaison - (Fleet Feedback Questions Answered) |
| Issue No. 8
(Oct '96) | <ol style="list-style-type: none">1. Five Reasons Why You Will CASREP Your RSD2. It's the Little Things That Count (Importance of proper maintenance)3. Tip of the Quarter - Avoiding Hydraulic Contamination |

If you see a subject that interests you, or are missing an issue(s) that you would like to have, give us a call or mail the enclosed feedback sheet to us detailing your request. Since there is no such thing as a free lunch, we request that you give us some feedback (your own maintenance tip, comments on "THE ASSIST", a topic for a future article, or the biggest pain in your RAST neck) as compensation for "shipping and handling".

Tip of the Quarter

Hydraulic contamination is a serious problem with the RAST system and some simple precautions can save both man hours and maintenance funds that are becoming harder to find. With more RAST systems coming up for hydraulic hose replacement, Lakehurst has seen a rise in WHPU's that have been grossly contaminated. When a hydraulic hose or component is removed, ensure that the first thing done is cap the end of any fitting/component that is open. This simple step is often overlooked and even one hour is enough to contaminate the system.

Dirt and dust are not the only contaminants that can do harm to your system. LINT can also be a system killer. Insist on only lint free rags when work is done around an open hydraulic system. Never use shop rags and duct tape as a way to seal fittings. There are caps available that work much better and they can be reused. Filters need to be checked and changed as needed. It's cheaper to replace filters

than to just let it go. With the cost of a major system flush going for around \$100,000.00, I think you can see my point. These are just a few things that need to be done to help your system. For more information, try reading the NAVSEA Technical Manual covering this area.

Submitted by:
EN1 (SW) Fales

Future Internet Access:

Although still under construction, the Navy Lakehurst Home Page contains one back issue of "THE ASSIST" (MAR 96 - no. 6). Check it out at:

<http://lakehurst1.navy.mil>

More to come

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